



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,812	09/19/2005	Toshihiro Yamada	Q90169	1457
23373	7590	11/06/2008	EXAMINER	
SUGHRUE MION, PLLC			CHRISS, JENNIFER A	
2100 PENNSYLVANIA AVENUE, N.W.				
SUITE 800			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20037			1794	
			MAIL DATE	DELIVERY MODE
			11/06/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/549,812	YAMADA, TOSHIHIRO	
	<b>Examiner</b>	<b>Art Unit</b>	
	JENNIFER A. CRISS	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 29 August 2008.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,3,5 and 6 is/are pending in the application.  
 4a) Of the above claim(s) 3 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,5-6 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's Amendments and Accompanying Remarks filed on August 29, 2008 has been entered and carefully considered. Claims 2 and 4 are cancelled, claim 3 is withdrawn, claims 5 - 6 are added and claims 1, 3 and 5 - 6 are pending. In view of Applicant's cancellation of claim 2 and amendment to claim 1 requiring that the "hollow part is located within the high intrinsic viscosity polytrimethylene terephthalate resin part", the Examiner has withdrawn the rejection of claims 1 and 2 as unpatentable over Miyake et al. in view of Tanaka et al. as detailed in the previous Office Action dated April 29, 2008. The amendment to the Specification has been reviewed and, as it introduces no new matter, it is entered. The invention as currently claimed is not found to be patentable for reasons herein below.
  
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 103***

3. Claims 1 and 5 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ochi et al. (US 6,306,499) in view of Tanaka et al. (US 6,455,156).

Ochi et al. is directed to a soft stretch yarn comprising polyester (Abstract) suitable for creating a highly soft stretch and highly attractive knitted fabric (column 9, lines 30 – 45).

As to claim 1, Ochi et al. teach a conjugate fiber comprising two components which are disposed eccentrically relative to another component such as side-by-side or eccentrically disposed sheath-core conjugate fibers (column 5, lines 16 – 25). Ochi et al. teach the use of a low viscosity component and a high viscosity component, both comprising PTT or polytrimethylene terephthalate (column 5, lines 34 – 40). Ochi et al. teach that the melt viscosity ratio of the components is preferably 1.05:1 to 5.00:1 or more preferably 1.2:1 to 2.50:1 where the melt viscosity of the lower viscosity polyester is 300 – 700 poise which provides enhanced spinnability, reduced yarn breakage and enhanced soft stretchability (column 6, lines 28 – 35). Ochi et al. teach that various cross-sectional shapes can be used as shown in Figure 3. Ochi et al. note that where the aim is lightness of weight and thermal insulation, a hollow side by side or other such suitable cross-sectional shape can be selected (column 6, lines 34 – 45). Figure 3F shows a configuration comprising a low viscosity component PTT and a high viscosity PTT component where a hollow part is formed within the high and the lower viscosity component.

As to claim 5, Ochi et al. teach embodiment as shown in Figure 3B comprising a side-by-side configuration where one component is larger than the other and embodiment as shown in Figure 3F comprising a side-by-side configuration where a hollow component is located between the two components. Ochi et al. note that

embodiments with a hollow component are more lightweight and provide thermal insulation while embodiments such as shown in Figure 3B display crimp and enhanced stretchability (column 6, lines 34 - 55). All of the component parts are known in Ochi et al. and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to create a conjugate fiber having a side-by-side configuration where one component is larger than the other and comprising a hollow component between both components, since the combination of elements would have yielded the predictable result of a conjugate fiber having good crimp and enhanced stretchability that is suitable for insulation applications or applications that require a lightweight fiber.

As to claim 6, Ochi et al. teach embodiment as shown in Figure 3H comprising a an eccentrically disposed sheath core conjugate fiber and embodiment as shown in Figure 3F comprising a side-by-side configuration where a hollow component is located between the two components. Ochi et al. note that embodiments with a hollow component are more lightweight and provide thermal insulation (column 6, lines 34 – 55) while embodiments such as shown in Figure 3H display outstanding crimpability (column 14, lines 35 – 55). All of the component parts are known in Ochi et al. and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to create an eccentrically disposed sheath core conjugate fiber comprising a hollow component between both

components, since the combination of elements would have yielded the predictable result of an eccentrically disposed sheath core conjugate fiber having excellent crimpability that is suitable for insulation applications or applications that require a lightweight fiber.

Ochi et al. teach the claimed invention above but do not specifically teach the use of hollow fibers having a cross-sectional area corresponding to 2 – 15% of the total cross-sectional area of the composite fiber.

Tanaka et al. is directed to hollow fibers suitable for use in various textile products including knitted fabrics (Abstract and column 3, lines 59 – 69 and column 4, lines 1 – 10). Tanaka et al. teach that the hollow fibers are made from islands-in-the-sea fibers, wherein the island components are processed and removed to create the hollow portions into the cross-sectional area (column 2, lines 1 – 69). Tanaka et al. notes that the hollow fibers of the invention have excellent lightness, ability to stay dry and demonstrate good bulk (column 2, lines 1 – 5). Tanaka et al. teach that the hollow portions preferably constitute 2 – 65% of the fiber cross-section and in particular, 3%, 4%, 7%, 10%, 12% and 14% all being suitable values (column 5, lines 55 – 69).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to create the fiber of Ochi et al. with a hollow portion constituting 2 – 15% of the cross-sectional area as suggested by Tanaka et al. motivated by the desire to create a fiber having excellent lightness, ability to stay dry and demonstrate good bulk making suitable for textile applications, in particular, knitted fabrics.

As to claim 1, Ochi et al. in view of Tanaka et al. teach the claimed invention above but fail to teach that one of the components has an intrinsic viscosity in the range of 0.50 to 1.4 dl/g and the other one has an intrinsic viscosity in the range from 0.40 to 1.30 dl/g and 0.1 to 0.5 dl/g below that of the higher intrinsic viscosity polyester and staple fibers exhibit an average web area thermal shrinkage of 30 – 60% as determined according to the procedure described in claim 1. It is reasonable to presume that the inherent viscosity ranges and the average web thermal shrinkage of 30 – 60% is inherent to Ochi et al. in view of Tanaka et al. Support for said presumption is found in the use of like materials (i.e. a hollow composite side-by-side fiber made of polytrimethylene terephthalate, wherein the two components have a specified melt viscosity range, where one is larger than the other by a specified range and wherein the hollow part constitutes 2 – 15% of the cross-sectional area) which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed properties would obviously have been present once the Miyake et al. in view of Tanaka et al. product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977). Reliance upon inherency is not improper even though the rejection is based on Section 103 instead of 102. *In re Skoner*, et al. (CCPA) 186 USPQ 80. It should be noted that the requirements of the fiber length and web used to in the test method are not considered to be required limitations of the claim but only a means to determine a parameter of the fiber of the claimed invention.

***Response to Arguments***

4. Applicant's arguments filed August 29, 2008 have been fully considered.
5. Applicant's arguments regarding the Miyake reference have been considered but are moot in view of the new ground of rejection.
6. Applicant's arguments regarding the secondary reference, Tanaka, are not persuasive. Applicant argues that Tanaka teaches a multi-hollowed fiber while amended claim 1 requires one hollow part. It should be noted that Applicant's claim is not limited to only one hollow part because the claim uses the transitional phrase "comprising" which does not exclude any additional components, i.e. more hollow parts. Additionally, the Examiner has relied on the secondary reference, Tanaka, to teach motivation to use a certain percentage range of hollowness and not the hollow part configuration. As such, the Examiner has used Tanaka as the secondary reference in the newly applied rejection above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER A. CRISS whose telephone number is (571)272-7783. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 6 p.m., first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A Chriss/  
Examiner, Art Unit 1794

/J. A. C./  
Examiner, Art Unit 1794